

STATUS REPORT OF REFORM OF THE UKRAINE POWER SECTOR
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1. Status of the Power Sector

The power sector of Ukraine is less prepared for the winter of the turn of the century than it ever has been. This statement is based on the fuel reserves being the lowest in history and the debts of the industry being the highest in history. The fuel situation is exacerbated this year by the lack of nuclear fuel because this is the first year that Ukraine has had to pay Russia for nuclear fuel, and there is only budget enough to pay for a fraction of that needed to supply the nuclear plants for the next year.

Debts of the generating plants for fuel keep growing because Ukrenergo, which purchases electricity from the generators, doesn't get paid for the electricity it sells to the local distribution companies, and its debts are also growing. Total payments are reported to be about 80% of billed sales, but less than 10% of payments are in cash, and the rest in barter. The barter payments are difficult to verify, and so the total amount of payments is uncertain. Much of the barter is electricity for fuel or other goods that can be traded for fuel, and this has created a large number of independent energy suppliers trading in the market. About 30% of total electricity sales are concluded by these independent suppliers. Technical and commercial losses are greater than 20% on average, so that about 20% of energy produced does not get billed.

The wholesale electricity market, Energomarket, that was designed in 1995 and 1996 is not operating in the way it was designed. It was designed as a market in which the fossil generating plants would bid into a pool, and they would be dispatched according to economic dispatch. Because of the lack of cash and the resulting large fuel debts, there is such a scarcity of fuel that the generating plants are dispatched by fuel availability, with no competing bids for operation. All of the rules and procedures of the Energomarket are bypassed by orders from the Ministry of Energy (Minenergo) which allocates the State Fuel Reserve, and thus, dictates which plants will run.

Because of the large debt levels to external fuel suppliers and the lack of cash, the power sector is entering the winter heating season in very questionable shape. When this outlook in the power sector is added to the macro-economic outlook of the country, the Government of Ukraine has had to take some action. The economic situation in the country as a whole is that Ukraine has some large debt payments due next year, and does not have the money to pay them. It is dependent upon loans from the IMF and other agencies to meet some of these debt payments. It must depend on the proceeds of privatization of State assets for additional money for debt payments. In order to qualify for additional loans, the Government has had to agree to begin to privatize the local electric companies.

2. Privatization of the Local Electric Companies

The G-7 countries Task Force has a commitment from the Government of Ukraine to privatize the local electric companies to strategic investors starting in 2000. Of the total of 27 local electric companies, seven have already been privatized, and the majority shares are held by

holding companies controlled by local people. These seven were not sold to strategic investors, and there was no commitment by the purchasers to invest in the companies after the privatization. As a result, there has not been adequate investment by the new owners in equipment and management.

In addition, the new owners have not followed some of the rules of the Energomarket, which are being enforced on a selective basis at the interpretation of Minenergo. As a result, Minenergo has tried to force NERC to revoke their licenses, and Minenergo has suggested that Ukrenergo, a State-owned company controlled by Minenergo, take over the supply licenses themselves. This move would violate the license of Ukrenergo, which also controls the high voltage transmission system, and NERC is resisting it. At the same time, Minenergo has, with the agreement of the Council of Ministers, taken over the management of all of the non-privatized local electricity companies and the generating companies. The argument for doing this is that this is an emergency situation and that strong central control by Minenergo is the only way to resolve the crisis.

Central to the problem that Minenergo is having with the privatized companies is the central clearing account into which all local electric companies are to deposit all cash received from customers. This account is controlled by Ukrenergo, and thus by Minenergo, and is to include all of the cash collected from retail customers. Ukrenergo is to allocate this cash to all creditors to pay the receivables. Of course, since there is only cash to cover about 8% of the costs of operating the system (10% of billable, which is 80% of electricity produced), no one receives enough cash. In fact, several times this summer, Minenergo declared an “emergency situation”, and took all of the cash in the central clearing account for allocation as it determined. In these situations, the private local electric companies received no cash for several months. As a result, they have ceased contributing into this account until they have paid their own bills, and sometimes contribute very little to the account. The efforts of Minenergo to gain control of the entire sector may be related to the desire to control the cash.

The problem that the existing privatized local electric companies have with the central clearing account will be a definite deterrent to bringing in strategic investors to purchase any of the remaining local electric companies. This is only one of the problems in the present operation of the electric sector that will need to change if strategic investors are to be attracted to Ukraine. USAID has requested that Hagler Bailly recommend changes in the sector that will be important to the attraction of strategic investors to the privatization of the local electric companies, and later, to the privatization of the generating companies.

The changes to the present operations of the electricity sector that are critical to the attraction of strategic investors are in three major areas:

- 1) The operation of the wholesale market;
- 2) The regulation of the sector; and
- 3) The tariffs for wholesale and retail electricity sales.

The USAID-sponsored Hagler Bailly technical assistance program during the past six months has focused on the first two of these critical areas, and has made significant recommendations on the third. The work on the wholesale market and the operation of NERC are described in this report, and the recommendations for tariff reform are discussed in the section that makes recommendations for future work.

3. The Wholesale Electricity Market

As has already been stated, the Energomarket that was put in place in 1995 and 1996, and that is described in the Energomarket Members' Agreement, is not what is happening today. In an attempt to resolve some of the problems with the way the market is now operating, four different drafts of a Law on the Operation of the Energomarket have been produced, each with a different idea of how the market should change. One of these drafts, that was created by the Yuris Law Firm and supported in the Parliament by Deputy Pavlovsky, has been accepted at the first reading by the Parliament. This draft, while far from perfect or even acceptable, has some features that are an improvement over the existing Energomarket, and can serve as a starting point to creating a wholesale market that would be acceptable to strategic investors.

During that past six months, Hagler Bailly has been working with the technical staff at Energomarket and with the Commissioners at NERC to promote a market model that we believe will be acceptable to, and in fact, required by strategic investors. This market model will accept direct contracts between generators and retail suppliers in addition to a balancing market for mismatches between demand and supply and for reserves and ancillary services. It would eliminate the single buyer/seller that takes ownership of electricity for resale, and replace it with direct settlements between sellers and purchasers. It would also eliminate the central clearing account.

Key to getting this new model of the wholesale market accepted by the industry, NERC, Minenergo and the Fuel and Energy Committee in the Parliament is to have a reasonable transition period to get from where we are now to where we want to be in the future when the market would be able to function as a fully competitive manner. Working with the Energomarket Working Group and with NERC, Hagler Bailly has proposed a three-phase transition period, starting with the introduction of the new Law and lasting for several years throughout the period of the privatization of the local electric companies and the generating companies.

With input from the Energomarket Working Group, Hagler Bailly has created a new draft of the Wholesale Market Law, based on the Pavlovsky Draft, but significantly changed in many respects. This new draft of the law includes the elimination of Ukrenergo as a single buyer and single seller, and proposes that generators sell directly to the suppliers. It also eliminates the central clearing account and proposes that settlements be between the buyers and the sellers, with the Systems Settlements Administrator serving as the central accounting function that keeps track of who owes whom how much.

The new draft law that Hagler Bailly has proposed creates the opportunity for purchasers of electricity to have direct contracts with sellers. To supplement the direct contracts, which will be used primarily for base load power, a balancing market is also created that will match actual load

to supply and will supply reserves and ancillary services to improve the reliability and control of the electricity system. The new law will set standards of performance for local electric companies to meet to be able to participate in the new market. These standards will include investments in adequate meters and communication equipment that will enable the new market to measure electricity flows accurately.

The transition period for implementing the new wholesale market will begin upon the adoption of the new Wholesale Market Law. The first phase must include changes that will show potential strategic investors that the operating market has eliminated some of the impediments that exist in the market today that they could not accept. It must also show that future improvements can be anticipated as they enter the market and improve the performance of the local electric companies through investment in equipment and management. These requirements have dictated the design of the transition period.

Phase I eliminates the liability of Ukrenergo as the buyer and seller of all electricity that is purchased by the retail suppliers. Ukrenergo will no longer take title electricity. A separate State Enterprise, Energomarket, (ESE) will be formed that includes the Market Operator, the National Dispatch Center, the Systems Settlements Administrator and the Market Funds Administrator. This would leave Ukrenergo as the operator of the high voltage transmission system, which should be incorporated as a separate State Enterprise. Both ESE and Ukrenergo will be service organizations to the wholesale market, and will be paid for those services by the market members, who will be the generating companies and the local electric companies.

Also in Phase I, the central clearing account would be eliminated, and all settlements will be made directly between buyers and sellers. Purchasers of electricity and services will be responsible to pay for those items directly to the providers – the generating companies and the service organizations, respectively. Electricity from all generators will be allocated hourly to each retail supplier proportionally according to the relative size of the demand of any supplier (in kWh). Each generator will be paid its bid price, and the wholesale market price will be the weighted average of all generator bid prices. It is anticipated that Phase I will last for about one year.

Phase II will introduce the use of direct contracts for the sale and purchase of electricity between generators and qualified retail suppliers and certain wholesale consumers. To be qualified, retail suppliers must have commercial metering in place, pay for its share of communications equipment required to process market operations data, and develop day-ahead hourly forecasts of loads. This phase will allocate nuclear and hydro generation to wholesale purchasers based on their last twelve months peak load, and will include the introduction of the balancing market for matching hourly demand to supply and providing for reserves and ancillary services. Generators will be able to directly contract for sales or sell into the balancing market. Generators selling into the balancing market will be paid their bid price.

Phase III will be open competition for the wholesale market, and will permit competitive bidding by generators into the balancing market or into the direct contract market. All wholesale price regulation will cease and the wholesale price will be the weighted average of all generator bid prices. Phase III is not expected to operate until most of the fossil generators have been

privatized, as true competitive bidding between government-owned entities, even if independently managed, is not anticipated to be successful.

4. National Energy Regulatory Commission

The Electricity Law states that NERC is to be an independent State agency that is to be funded from license fees that it collects for issuing licenses to the entities that it regulates. However, the Law does not have adequate detail with regard to NERC's organization and its duties. As a result, its independence has been compromised by Minenergo and the CoM, and Parliament has taken away its budget by making all license fees go to the State budget. Parliament has also not permitted the tariffs that NERC has approved to be implemented. Thus, NERC does not have either the independence or the power that the Electricity Law intended. This is a problem for potential strategic investors, who want to know that whatever regulation is in place will be constant and predictable in the future.

The need for a stronger law to support NERC has been seen in the drafters of the Pavlovsky draft of the Wholesale Market Law, as they included some articles on the detailed responsibilities and power of NERC. However, since that law only deals with the electricity market, NERC and USAID/ Hagler Bailly determined that a separate NERC Law was more appropriate because NERC regulates all of the energy sector, not only electricity. Therefore, Hagler Bailly has assisted NERC in drafting a new Law on the National Energy Regulatory Commission. This draft is in review at NERC now, and NERC plans to present it to the Parliament early in the new year.

5. Tariffs

The retail tariffs that are now used have no relation to the methodology that is in place, as they are set by NERC based on a monthly price cap that is within a limit proposed by the Parliament. The retail prices have no relationship to wholesale prices, which are themselves negotiated based on minimizing tax payments to the generators. To support the privatization of the local electric companies, tariff reform will be required so that tariff methodology is transparent and the levels of tariffs are such that they fully cover the costs of doing business. Otherwise, potential strategic investors will not be attracted to purchase companies in the sector.

To determine the effects of tariffs and other economic variables of the local electric companies on the value that strategic investors will place on these companies. Hagler Bailly has created a financial model of the companies, and looked at the effects of different parameters on the net present value of the companies. Of course, one of the parameters that affect asset value most is the tariff level. The analysis shows that with the existing tariff levels, even if payments for electricity were 100%, the companies would still be losing money because the tariffs do not cover the costs of operating the electricity system. Thus, at present tariff levels, all of these companies have negative net present value.

6. Recommendations for Future Work

NERC has accepted the general outline of the new draft Wholesale Market Law that has been drafted by Hagler Bailly. There are a lot of details that still have to be explained and negotiated

in the draft law with NERC, Minenergo, CoM, Energomarket and the Parliament. USAID/Hagler Bailly has begun working with the Yuris Law Firm, the original drafter of the Pavlovsky Draft, to modify that draft to meet the requirements that have been described in this report. This will take an extensive effort over the next couple of months. At the same time, work with NERC and the other Government organizations and with Parliament will have to continue to make sure that the critical changes that will be required by strategic investors are included in the final draft.

After the final draft of the law is agreed, there will be much training in the changes to the present operations in Energomarket and in NERC to implement the new law and the new wholesale market. Hagler Bailly has been working primarily with Chairman Svetelik of NERC and Commissioner Kotko, who is responsible within NERC for the Energomarket. These key people have supported our efforts to change the market model and the draft of the Wholesale Market Law. The work with the rest of the Commission, and with the staff at Energomarket to implement the changes in the market will take many months, as it is estimated that six months will be required to make the changes necessary to implement Phase I, and probably an equal amount of time to implement Phase II. This work has to parallel the work of the G-7 Task Force in privatizing the local electric companies, and so it should start immediately.

A proposed work plan of technical assistance to support the introduction of the new market is included as Attachment 1.

NERC plans to submit the proposed Law on NERC to the Parliament in the first quarter of 2000. They will require some assistance in finalizing the draft that will be submitted to Parliament and in getting it passed in Parliament. NERC is depending on the assistance that Hagler Bailly has been providing to get this law passed, and to implement the organization and procedures that the law specifies.

As stated above, tariffs need a lot of work to make them acceptable to potential strategic investors. NERC understands that the present tariff system is totally out of control, and that much work needs to be done. Again, they are looking for assistance from experienced tariff designers to help them develop the methodology and to implement transparent, cost-based tariffs that must include returns on investment that new investors make in the sector. Cost-based tariffs must be developed for all of the service organizations, including the high voltage transmissions system, the low voltage transmission systems, the National Dispatch Center, the Market Operator, and these tariffs must be transparent. The retail tariffs must, in turn, be built up of the wholesale tariff and all of the tariffs of the service organizations, so that they actually reflect the true cost-of-service.

This work on implementing new tariffs must parallel the wholesale market development work and the privatization of the local electric companies so that potential strategic investors will have solid information upon which to base their projections of future economic performance. The work with NERC should begin immediately in the new year, as it will take most of one year to implement new tariff methodology and tariffs.